

Virtual Pollution Fieldtrip

Grades

Any

Subject

Science, Health, Art, History, Geography, Cultural

Type of Lesson Plan

Project

Duration

1 hour per week

Materials

Choose materials to construct a polluted city. For this classroom model you will need:

- Construction paper
- Cardboard
- Recyclable products (e.g. milk cartons)
- Felt
- Crayons
- Colored Pencils
- Any materials that give the model the desired effect.

Suggestions for pollution literature to read aloud are as follows: *The Berenstain Bears Don't Pollute (Anymore)* by Jan and Stan Berenstain; Random House, 1991, *The World That Jack Built* by Ruth Brown; Dutton, 1991, *Where Does Pollution Come From?* By Cast C. Vance; Barron's Educational Series, Incorporated, 1994, *The Wump World* by Bill Peet; Houghton Mifflin Company, 1991, *One Child* by Christopher W. Cheng; Group, Incorporated, 1999.

Objectives

TLW...

- Understand the definition of pollution and how it can affect your health.
- Identify different sources of pollution.
- Understand the cycle of pollution i.e. human actions affect the environment, the environment affects primary receptors (plants and animals), the primary receptors then affect the secondary receptors (grazers, predators, humans).
- Learn how to make a difference in your own environment.

Set

Before presenting the lesson, prepare a simulated city in either a portion of the classroom or in another room altogether. Design the model as big as you like and use whatever materials you choose to create this polluted city. Due to the possible amount of preparation (depending on how detailed/big you choose to make it), if an additional teacher is interested in the lesson, join together in your efforts to design the basic structures and details of the model (e.g. stores, parks with no trees, several buildings, houses, streets). You have the option of doing a joint presentation with the other class or using the same model at separate times. Making it 3-D, and touring through the “streets” might make it more exciting!

Next, prepare cut-outs of pollution-producing agents. Include the following and any other sources that come to mind: factories emitting smoke/fumes, houses- some with lights on and no one home, others with lights on and people home in the daytime (maybe a skylight to show natural light), lots of cars driving, not a lot of (healthy) trees. You can also make clouds (construction paper or your choice of material) and hang them on clear string from the ceiling. Hanging them low and possibly giving them a dirty tint can demonstrate an inversion caused by pollution. Set these aside.

Also create cut-outs or replacements for each pollution-producing agent and use these later to improve the city. For example, make lots of healthy trees/vegetation, cut out black squares to “turn out the lights” in the homes where energy is being wasted, replace many of the cars with bikes or people walking. Set these aside.

The students will eventually color/design all of these items and bring them on the tour of the city. Encourage the class to make additional items, in either category, on their own.

Instructional Input

1. Introduce the subject and ask the class what they think pollution is. Define pollution in an age appropriate manner. This would also be a good time to incorporate one of the pollution stories from the suggested reading list.
2. Divide the class in half. Half of the class will be the residents of “Pollutionville” and half will be the rescuers. Distribute the pollution cut-outs to the residents and the improvement cut-outs to the rescuers. Provide a variety of art supplies and let the kids color their items. When everyone is finished, go through each of the residents’ pollution-producing agents and ask students what kind of pollution it is? Where does it come from? After each one, ask the class what would help to get rid of this type of pollution. Brainstorm solutions as a class and then ask which rescuer would be of help. For example, after talking about a big truck with lots of smoke, prompt the rescuer with a bike or someone walking to show their cut-out. Encourage everyone to participate.
3. Explain to the class that you are about to go on an imaginary field trip. You are going to visit a city that is extremely polluted. Call it “Pollutionville,” create your own name, or have the kids

come up with ideas. Explain that those with the pollution items will be the residents of the city and those with the improvements will be the rescuers of the city. However, although the class is divided in half, everyone is responsible for brainstorming in both categories.

4. Walking through the town, have each resident place their cut-outs around the city. Go through each type of pollution and explain the result of each (e.g. using electricity is using energy which comes from power plants and when we waste it we are hurting the environment).

5. Next, ask the kids how they would like to see this city look? What would make it look better? Is there any vegetation? How can they get rid of all the fumes? For each suggestion, let the rescuers take one of their pre-made cut-outs and make their own improvements.

Checks for understanding

When the city is cleaner, congratulate the entire class on making a healthier environment and brainstorm a new name for the improved city. Explain that although this place was imaginary, the examples of pollution were real. Ask if the improvements they made could be helpful in their environment. Have the class brainstorm things they can do for their own community/environment to reduce pollution (e.g. walking to school, turning off lights and water whenever possible, planting a tree).

Closure

Review what pollution is, where it comes from, and some of the ways to reduce it.